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## **Warm Atlantic Ocean Waters Could Increase Expansion of Invasive Tropical Species**

Scientists studying the roles of temperature and depth in structuring fish communities along the North Carolina continental shelf have found that as ocean waters warm, tropical fish species—including the invasive lionfish (*Pterois volitans*)—could expand into new areas that cold winter temperatures formerly rendered inhospitable.

Researchers from NOAA and the University of North Carolina, Wilmington analyzed year-round bottom water temperature data associated with fish community surveys in water depths from 15 to 150 feet off the coast of North Carolina. The scientists found that the fish community in deeper areas was mainly tropical, dominated by lionfish in depths between 122 to 150 feet, suggesting temperature is a key factor in affecting the distribution of this species.

Oceanographer Jon Hare, chief of the Oceanography Branch at the Northeast Fisheries Science Center (NEFSC) and director of the Center's Narragansett Laboratory in Rhode Island, was one of the study's authors.

In 2000, Hare was involved in the initial research on the lionfish invasion into North Carolina waters. He worked at NOAA's Beaufort Laboratory for 10 years, and since moving to the Northeast Fisheries Science Center has continued to follow the invasion and the possibility of lionfish spreading into the Northeast.

In their study, researchers looked at 40 native fish species found along rocky and artificial reefs off North Carolina. The findings were reported in the September 2014 issue of *Marine Ecology Progress Series*.

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### **Related links:**

Marine Ecology Progress Series article: [http://www.int-res.com/articles/meps\\_oa/m509p241.pdf](http://www.int-res.com/articles/meps_oa/m509p241.pdf)

NOAA, UNC-Wilmington study finds warming Atlantic ocean temperature could increase expansion of invasive native species:

[http://www.noaanews.noaa.gov/stories2014/20140915\\_lionfish.html](http://www.noaanews.noaa.gov/stories2014/20140915_lionfish.html)

The Lionfish Invasion: <http://oceanservice.noaa.gov/education/stories/lionfish/welcome.html>

North Atlantic Fish Populations Shifting as Ocean Temperatures Warm:

[http://www.nefsc.noaa.gov/press\\_release/2009/SciSpot/SS0916/](http://www.nefsc.noaa.gov/press_release/2009/SciSpot/SS0916/)

Scientists Link Climate Change and Atlantic Croaker Fishery:

[http://www.nefsc.noaa.gov/press\\_release/2010/SciSpot/SS1005/](http://www.nefsc.noaa.gov/press_release/2010/SciSpot/SS1005/)

Potential Impacts of Climate Change on the Biota of the U.S. Northeast Shelf Large Marine Ecosystem: [http://www.nefsc.noaa.gov/ecosys/climate\\_change/historical.html](http://www.nefsc.noaa.gov/ecosys/climate_change/historical.html)